

XX/3 FOR UTILITY/DESIGN
CIP/PCT NATIONAL/PLANT
ORIGINAL/SUBSTITUTE/SUPPLEMENTAL
DECLARATIONS



RULE 63 (37 C.F.R. 1.63)
DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PM & S
FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED GENETIC INHIBITION BY DOUBLE-STRANDED RNA

the specification of which (CHECK applicable BOX(ES))
X → is attached hereto.
BOX(ES) → was filed on December 18, 1998 as U.S. Application No. 09/ 215,257
→ was filed as PCT International Application No. PCT/ _____ / _____ on _____
and (if applicable to U.S. or PCT application) was amended on _____

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

<u>PRIOR FOREIGN APPLICATION(S)</u>		<u>Date first Laid-open or Published</u>	<u>Date Patented or Granted</u>	<u>Priority Claimed</u>
<u>Number</u>	<u>Country</u>			<u>Yes</u> <u>No</u>

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

<u>PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)</u>		<u>Status</u>	<u>Priority Claimed</u>
<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>		<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	<u>pending, abandoned, patented</u> pending	X

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, Intellectual Property Group, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, telephone number (202) 861-3000 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with their firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary.

Paul N. Kokulis	16773	David W. Brinkman	20817	G. Paul Edgell	24238	Richard H. Zaitlen	27248
Raymond F. Lippitt	17519	Donald J. Bird	25323	Lynn E. Eccleston	35861	Roger R. Wise	31204
G. Lloyd Knight	17698	Peter W. Gowdey	25872	Timothy J. Klima	34852	Jay M. Finkelstein	21082
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Edgar H. Martin	20534	Paul E. White, Jr.	32011	Mark G. Paulson	30793	Michael R. Dzwonczyk	36787
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George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE: Andrew J. Z. Date: 15 January 1999

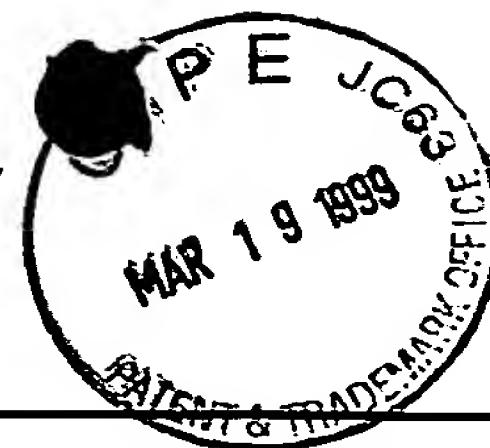
First: <u>Andrew</u>	Middle Initial: <u>Z</u>	FIRE	Family Name
Residence: <u>Baltimore</u>	<u>Maryland</u>	<u>U.S.A.</u>	Country of Citizenship
Post Office Address: <u>2320 Bright Leaf Way, Baltimore, Maryland</u>	(include Zip Code) <u>21240-21209</u>		

(2) INVENTOR'S SIGNATURE: Date:

First: <u>Ballwin</u>	Middle Initial: <u>Q.</u>	XU	Family Name
Residence: <u>Ballwin</u>	<u>Missouri</u>	<u>China</u>	Country of Citizenship
Post Office Address: <u>1755 Warmington Court, Ballwin, Missouri</u>	(include Zip Code) <u>63021</u>		

(FOR ADDITIONAL INVENTORS, check box to attach PAT 116-2 same information for each re signature, name, date, citizenship, residence and address.)

DECLARATION AND POWER OF ATTORNEY
 (continued)
ADDITIONAL INVENTORS



(3) INVENTOR'S SIGNATURE:

Mary	K.	Montgomery	Date:
First		Middle Initial	Family Name
Residence	St. Paul	Minnesota	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	233 Macalester Street, St. Paul, Minnesota 55105		

(4) INVENTOR'S SIGNATURE:

Stephen	A.	KOSTAS	Date:
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	126 East Melrose Avenue, Baltimore, Maryland 21212		

(5) INVENTOR'S SIGNATURE:

Lisa	TIMMONS		Date:
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	2408 Brambleton Road, Baltimore, Maryland 21209		

(6) INVENTOR'S SIGNATURE:

Hiroaki	TABARA		Date:
First		Middle Initial	Family Name
Residence	Worcester	Massachusetts	Japan
City		State/Foreign Country	
Post Office Address (include Zip Code)	145 Orient Street, Apt. #1, Worcester, Massachusetts 01604		

(7) INVENTOR'S SIGNATURE:

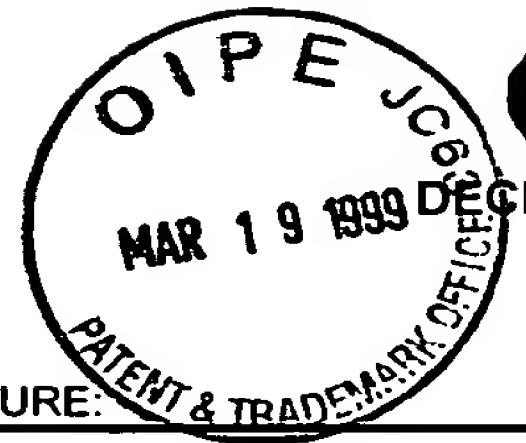
Samuel	E.	DRIVER	Date: 3/1/97
First		Middle Initial	Family Name
Residence	Brighton	Massachusetts	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts 02135		

(8) INVENTOR'S SIGNATURE:

Craig	C.	MELLO	Date:
First		Middle Initial	Family Name
Residence	Shrewsbury	Massachusetts	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	19 Ryan Road, Shrewsbury, Massachusetts 01545		

(9) INVENTOR'S SIGNATURE:

			Date:
First		Middle Initial	Family Name
Residence			
City		State/Foreign Country	
Post Office Address (include Zip Code)			



DECLARATION AND POWER OF ATTORNEY
(continued)
ADDITIONAL INVENTORS

(3) INVENTOR'S SIGNATURE:

Mary	K.	Montgomery	Date:
First		Middle Initial	Family Name
Residence	St. Paul	Minnesota	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	233 Macalester Street, St. Paul, Minnesota 55105		Country of Citizenship

(4) INVENTOR'S SIGNATURE:

Stephen	A.	KOSTAS	Date:
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	126 East Melrose Avenue, Baltimore, Maryland 21212		Country of Citizenship

(5) INVENTOR'S SIGNATURE:

Lisa	TIMMONS		Date:
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
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Post Office Address (include Zip Code)	2408 Brambleton Road, Baltimore, Maryland 21209		Country of Citizenship

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Residence	Worcester	Massachusetts	Japan
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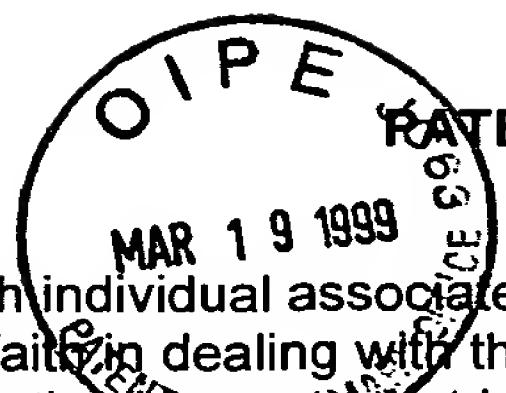
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City		State/Foreign Country	
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Craig	C.	MELLO	Date:
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City		State/Foreign Country	
Post Office Address (include Zip Code)	19 Ryan Road, Shrewsbury, Massachusetts 01545		Country of Citizenship

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			Date:
First		Middle Initial	Family Name
Residence			
City		State/Foreign Country	
Post Office Address (include Zip Code)			Country of Citizenship



Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE

(a) ... Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability... (b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refutes, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§103. Condition for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person

* Six months for Design Applications (35 U.S.C. 172).

FOR UTILITY/DESIGN
CIP/PCT NATIONAL/PLANT
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PE J.C. MAR 19 1999
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the specification of which (CHECK applicable BOX(ES))
X → is attached hereto.
BOX(ES) → was filed on December 18, 1998 as U.S. Application No. 09/215,257
→ was filed as PCT International Application No. PCT/_____ / _____ on _____
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<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	pending, abandoned, patented pending

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George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE:

Date:

Andrew		FIRE		
First		Middle Initial	Family Name	
Residence	Baltimore	Maryland	U.S.A.	
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		2320 Bright Leaf Way, Baltimore, Maryland 21210		

(2) INVENTOR'S SIGNATURE:

Date: 1/12/99

Sign		First	Middle Initial	Family Name
Residence	Ballwin	Missouri	China	
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		1755 Warmington Court, Ballwin, Missouri 63021		

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DECLARATION AND POWER OF ATTORNEY
(continued)
ADDITIONAL INVENTORS

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	Mary	K.	Montgomery	Date:
Residence	First St. Paul	Middle Initial Minnesota	Family Name U.S.A.	
Post Office Address (include Zip Code)	City 233 Macalester Street, St. Paul, Minnesota 55105		State/Foreign Country Country of Citizenship	

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	Stephen	A.	KOSTAS	Date:
Residence	First Baltimore	Middle Initial Maryland	Family Name U.S.A.	
Post Office Address (include Zip Code)	City 126 East Melrose Avenue, Baltimore, Maryland 21212		State/Foreign Country Country of Citizenship	

(5) INVENTOR'S SIGNATURE:

	Lisa		TIMMONS	Date:
Residence	First Baltimore	Middle Initial Maryland	Family Name U.S.A.	
Post Office Address (include Zip Code)	City 2408 Brambleton Road, Baltimore, Maryland 21209		State/Foreign Country Country of Citizenship	

(6) INVENTOR'S SIGNATURE:

	Hiroaki		TABARA	Date:
Residence	First Worcester	Middle Initial Massachusetts	Family Name Japan	
Post Office Address (include Zip Code)	City 145 Orient Street, Apt. #1, Worcester, Massachusetts 01604		State/Foreign Country Country of Citizenship	

(7) INVENTOR'S SIGNATURE:

	Samuel	E.	DRIVER	Date:
Residence	First Brighton	Middle Initial Massachusetts	Family Name U.S.A.	
Post Office Address (include Zip Code)	City 1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts 02135		State/Foreign Country Country of Citizenship	

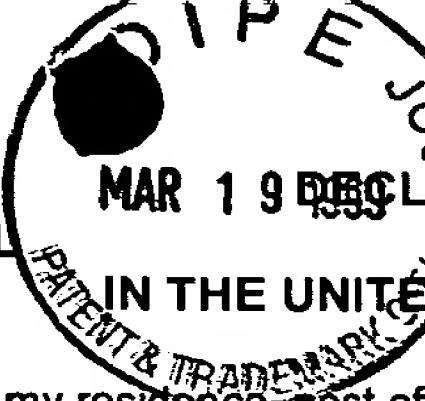
(8) INVENTOR'S SIGNATURE:

	Craig	C.	MELLO	Date:
Residence	First Shrewsbury	Middle Initial Massachusetts	Family Name U.S.A.	
Post Office Address (include Zip Code)	City 19 Ryan Road, Shrewsbury, Massachusetts 01545		State/Foreign Country Country of Citizenship	

(9) INVENTOR'S SIGNATURE:

				Date:
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 is attached hereto.
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(1) INVENTOR'S SIGNATURE:

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First	Middle Initial	Family Name
Residence	Maryland	U.S.A.
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Post Office Address (include Zip Code)	2320 Bright Leaf Way, Baltimore, Maryland 21210	

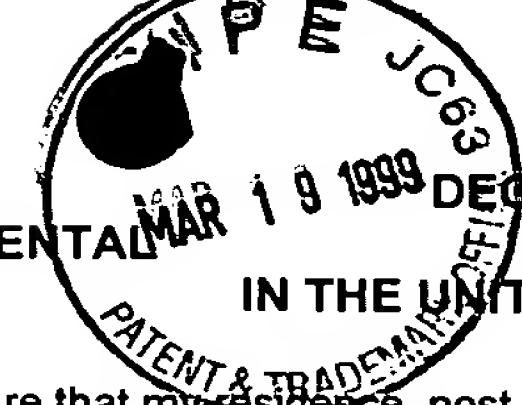
(2) INVENTOR'S SIGNATURE:

Date:

First	Middle Initial	Family Name
Residence	Missouri	China
City	State/Foreign Country	Country of Citizenship
Post Office Address (include Zip Code)	1755 Warmington Court, Ballwin, Missouri 63021	

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PM & S
FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED GENETIC INHIBITION BY DOUBLE-STRANDED RNA

the specification of which (CHECK applicable BOX(ES))
 is attached hereto.
 BOX(ES) → was filed on December 18, 1998 as U.S. Application No. 09/ 215,257
 → was filed as PCT International Application No. PCT/ / on
 and (if applicable to U.S. or PCT application) was amended on

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

<u>PRIOR FOREIGN APPLICATION(S)</u>	<u>Date first Laid-open or Published</u>	<u>Date Patented or Granted</u>	<u>Priority Claimed</u>
<u>Number</u>	<u>Country</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

<u>PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)</u>	<u>Status</u>	<u>Priority Claimed</u>
<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	pending, abandoned, patented pending
		X

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, Intellectual Property Group, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, telephone number (202) 861-3000 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with their firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary.

Paul N. Kokulis	16773	David W. Brinkman	20817	G. Paul Edgell	24238	Richard H. Zaitlen	27248
Raymond F. Lippitt	17519	Donald J. Bird	25323	Lynn E. Eccleston	35861	Roger R. Wise	31204
G. Lloyd Knight	17698	Peter W. Gowdey	25872	Timothy J. Klima	34852	Jay M. Finkelstein	21082
Carl G. Love	18781	Dale S. Lazar	28872	David A. Jakopin	32995	Anita M. Kirkpatrick	32617
Edgar H. Martin	20534	Paul E. White, Jr.	32011	Mark G. Paulson	30793	Michael R. Dzwonczyk	36787
William K. West, Jr.	22057	Glenn J. Perry	28458	Stephen C. Glazier	31361	W. Patrick Bengtsson	32456
Kevin E. Joyce	20508	Kendrew H. Colton	30368	Paul F. McQuade	31542		
George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE:

Date:

Andrew		FIRE		
First	Middle Initial		Family Name	
Residence	Baltimore	Maryland		U.S.A.
City	State/Foreign Country		Country of Citizenship	
Post Office Address (include Zip Code)	2320 Bright Leaf Way, Baltimore, Maryland 21210			

(2) INVENTOR'S SIGNATURE:

Date:

Si		Q.	XU	
First	Middle Initial		Family Name	
Residence	Ballwin	Missouri		China
City	State/Foreign Country		Country of Citizenship	
Post Office Address (include Zip Code)	1755 Warmington Court, Ballwin, Missouri 63021			

(FOR ADDITIONAL INVENTORS, check box to attach PAT 116-2 same information for each re signature, name, date, citizenship, residence and address.)



DECLARATION AND POWER OF ATTORNEY

(continued)
ADDITIONAL INVENTORS

(3) INVENTOR'S SIGNATURE:

Mary	K.	Montgomery	Date:
First	Middle Initial	Family Name	
Residence	St. Paul	Minnesota	U.S.A.
Post Office Address (include Zip Code)	233 Macalester Street, St. Paul, Minnesota 55105	State/Foreign Country	Country of Citizenship

(4) INVENTOR'S SIGNATURE:

Stephen	A.	KOSTAS	Date:
First	Middle Initial	Family Name	
Residence	Baltimore	Maryland	U.S.A.
Post Office Address (include Zip Code)	126 East Melrose Avenue, Baltimore, Maryland 21212	State/Foreign Country	Country of Citizenship

(5) INVENTOR'S SIGNATURE:

Lisa	D. ^{WT}	TIMMONS	Date: X 1-19-99
First	Middle Initial	Family Name	
Residence	Baltimore	Maryland	U.S.A.
Post Office Address (include Zip Code)	2408 Brambleton Road, Baltimore, Maryland 21209	State/Foreign Country	Country of Citizenship

Judith Capaldo - Witness

(6) INVENTOR'S SIGNATURE:

Hiroaki		TABARA	Date:
First	Middle Initial	Family Name	
Residence	Worcester	Massachusetts	Japan
Post Office Address (include Zip Code)	145 Orient Street, Apt. #1, Worcester, Massachusetts 01604	State/Foreign Country	Country of Citizenship

(7) INVENTOR'S SIGNATURE:

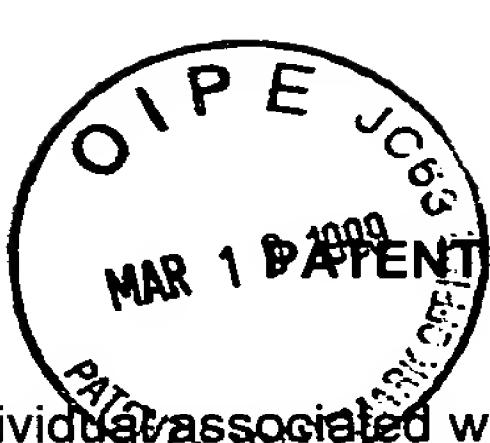
Samuel	E.	DRIVER	Date:
First	Middle Initial	Family Name	
Residence	Brighton	Massachusetts	U.S.A.
Post Office Address (include Zip Code)	1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts 02135	State/Foreign Country	Country of Citizenship

(8) INVENTOR'S SIGNATURE:

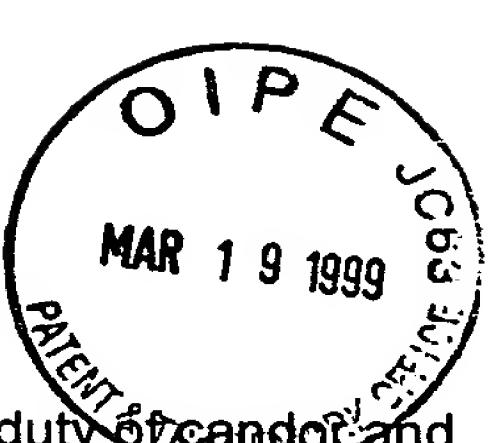
Craig	C.	MELLO	Date:
First	Middle Initial	Family Name	
Residence	Shrewsbury	Massachusetts	U.S.A.
Post Office Address (include Zip Code)	19 Ryan Road, Shrewsbury, Massachusetts 01545	State/Foreign Country	Country of Citizenship

(9) INVENTOR'S SIGNATURE:

			Date:
First	Middle Initial	Family Name	
Residence			
Post Office Address (include Zip Code)		State/Foreign Country	Country of Citizenship



Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE



(a) ...Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability... (b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refutes, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§103. Condition for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person

* Six months for Design Applications (35 U.S.C. 172).

FOR UTILITY/DESIGN
CIP/PCT NATIONAL/PLANT
ORIGINAL/SUBSTITUTE/SUPPLEMENTAL
DECLARATIONS

MAR 19 1999

U.S. PATENT & TRADEMARK OFFICE
PATENT & TRADEMARK OFFICE
RULE 63 (37 C.F.R. 1.13)
DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PM & S
FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED GENETIC INHIBITION BY DOUBLE-STRANDED RNA

the specification of which (CHECK applicable BOX(ES))
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 BOX(ES) → was filed on December 18, 1998 as U.S. Application No. 09/215,257
 → was filed as PCT International Application No. PCT/_____ / _____ on _____
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<u>PRIOR FOREIGN APPLICATION(S)</u>	<u>Date first Laid-open or Published</u>	<u>Date Patented or Granted</u>	<u>Priority Claimed</u>
<u>Number</u>	<u>Country</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>

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<u>PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)</u>	<u>Status</u>	<u>Priority Claimed</u>
<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	pending, abandoned, patented pending

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Raymond F. Lippitt	17519	Donald J. Bird	25323	Lynn E. Eccleston	35861	Roger R. Wise	31204
G. Lloyd Knight	17698	Peter W. Gowdey	25872	Timothy J. Klima	34852	Jay M. Finkelstein	21082
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Edgar H. Martin	20534	Paul E. White, Jr.	32011	Mark G. Paulson	30793	Michael R. Dzwonczyk	36787
William K. West, Jr.	22057	Glenn J. Perry	28458	Stephen C. Glazier	31361	W. Patrick Bengtsson	32456
Kevin E. Joyce	20508	Kendrew H. Colton	30368	Paul F. McQuade	31542		
George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE:

Date:

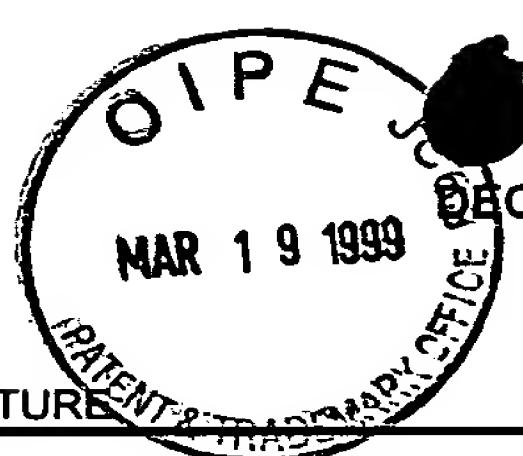
Andrew		FIRE	
First	Middle Initial	Family Name	
Residence	Baltimore	Maryland	U.S.A.
City	State/Foreign Country	Country of Citizenship	
Post Office Address (include Zip Code)	2320 Bright Leaf Way, Baltimore, Maryland 21210		

(2) INVENTOR'S SIGNATURE:

Date:

Si	Q.	XU	
First	Middle Initial	Family Name	
Residence	Ballwin	Missouri	China
City	State/Foreign Country	Country of Citizenship	
Post Office Address (include Zip Code)	1755 Warmington Court, Ballwin, Missouri 63021		

(FOR ADDITIONAL INVENTORS, check box to attach PAT 116-2 same information for each re signature, name, date, citizenship, residence and address.)



DECLARATION AND POWER OF ATTORNEY
(continued)
ADDITIONAL INVENTORS

(3) INVENTOR'S SIGNATURE:

			Date:
Mary K. Montgomery			
	First	Middle Initial	Family Name
Residence	St. Paul	Minnesota	U.S.A.
	City	State/Foreign Country	Country of Citizenship
Post Office Address	233 Macalester Street, St. Paul, Minnesota		
(include Zip Code)	55105		

(4) INVENTOR'S SIGNATURE:

			Date:
Stephen A. KOSTAS			
	First	Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
	City	State/Foreign Country	Country of Citizenship
Post Office Address	126 East Melrose Avenue, Baltimore, Maryland		
(include Zip Code)	21212		

(5) INVENTOR'S SIGNATURE:

			Date:
Lisa TIMMONS			
	First	Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
	City	State/Foreign Country	Country of Citizenship
Post Office Address	2408 Brambleton Road, Baltimore, Maryland		
(include Zip Code)	21209		

(6) INVENTOR'S SIGNATURE:

			Date:
Hiroaki TABARA			
	First	Middle Initial	Family Name
Residence	Worcester	Massachusetts	Japan
	City	State/Foreign Country	Country of Citizenship
Post Office Address	145 Orient Street, Apt. #1, Worcester, Massachusetts		
(include Zip Code)	01604		

(7) INVENTOR'S SIGNATURE:

			Date:
Samuel E. DRIVER			
	First	Middle Initial	Family Name
Residence	Brighton	Massachusetts	U.S.A.
	City	State/Foreign Country	Country of Citizenship
Post Office Address	1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts		
(include Zip Code)	02135		

(8) INVENTOR'S SIGNATURE:

			Date:
Craig C. MELLO			
	First	Middle Initial	Family Name
Residence	Shrewsbury	Massachusetts	U.S.A.
	City	State/Foreign Country	Country of Citizenship
Post Office Address	19 Ryan Road, Shrewsbury, Massachusetts		
(include Zip Code)	01545		

(9) INVENTOR'S SIGNATURE:

			Date:
	First	Middle Initial	Family Name
Residence			
	City	State/Foreign Country	Country of Citizenship
Post Office Address			
(include Zip Code)			

Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE



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PATENT LAWS 35 U.S.C.

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- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

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* Six months for Design Applications (35 U.S.C. 172).

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED GENETIC INHIBITION BY DOUBLE-STRANDED RNA

the specification of which (CHECK applicable BOX(ES))
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<u>PRIOR FOREIGN APPLICATION(S)</u>		<u>Date first Laid-open or Published</u>	<u>Date Patented or Granted</u>	<u>Priority Claimed</u>
<u>Number</u>	<u>Country</u>	<u>Day/MONTH/Year Filed</u>		<u>Yes</u> <u>No</u>

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<u>PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)</u>		<u>Status</u>	<u>Priority Claimed</u>
<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>	<u>pending, abandoned, patented</u>	<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	pending	X

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, Intellectual Property Group, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, telephone number (202) 861-3000 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with their firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary.

Paul N. Kokulis	16773	David W. Brinkman	20817	G. Paul Edgell	24238	Richard H. Zaitlen	27248
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George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE:

Date:

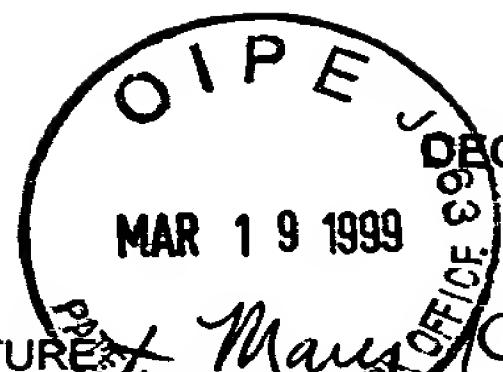
Andrew		FIRE		
First	Middle Initial	Family Name		
Residence	Baltimore	Maryland	U.S.A.	
Post Office Address	City State/Foreign Country			Country of Citizenship
(include Zip Code)	2320 Bright Leaf Way, Baltimore, Maryland			

(2) INVENTOR'S SIGNATURE:

Date:

Si	Q.	XU	Family Name
First	Middle Initial		
Residence	Ballwin	Missouri	China
Post Office Address	City State/Foreign Country		
(include Zip Code)	1755 Warmington Court, Ballwin, Missouri		

(FOR ADDITIONAL INVENTORS, check box to attach PAT 116-2 same information for each re signature, name, date, citizenship, residence and address.)



DECLARATION AND POWER OF ATTORNEY

(continued)

ADDITIONAL INVENTORS

(3) INVENTOR'S SIGNATURE:

<i>Mary</i>		K.	Montgomery
First		Middle Initial	Family Name
Residence	St. Paul	Minnesota	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	233 Macalester Street, St. Paul, Minnesota 55105		

Date: *1/29/99*

(4) INVENTOR'S SIGNATURE:

<i>Stephen</i>		A.	KOSTAS
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	126 East Melrose Avenue, Baltimore, Maryland 21212		

Date:

(5) INVENTOR'S SIGNATURE:

<i>Lisa</i>		TIMMONS	
First		Middle Initial	Family Name
Residence	Baltimore	Maryland	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	2408 Brambleton Road, Baltimore, Maryland 21209		

Date:

(6) INVENTOR'S SIGNATURE:

<i>Hiroaki</i>		TABARA	
First		Middle Initial	Family Name
Residence	Worcester	Massachusetts	Japan
City		State/Foreign Country	
Post Office Address (include Zip Code)	145 Orient Street, Apt. #1, Worcester, Massachusetts 01604		

Date:

(7) INVENTOR'S SIGNATURE:

<i>Samuel</i>		E.	DRIVER
First		Middle Initial	Family Name
Residence	Brighton	Massachusetts	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts 02135		

Date:

(8) INVENTOR'S SIGNATURE:

<i>Craig</i>		C.	MELLO
First		Middle Initial	Family Name
Residence	Shrewsbury	Massachusetts	U.S.A.
City		State/Foreign Country	
Post Office Address (include Zip Code)	19 Ryan Road, Shrewsbury, Massachusetts 01545		

Date:

(9) INVENTOR'S SIGNATURE:

		Middle Initial	Family Name
Residence			
City		State/Foreign Country	
Post Office Address (include Zip Code)			

Date:



Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
DUTY OF DISCLOSURE

(a) ...Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability... (b) information is material to patentability when it is not cumulative and (1) It also establishes by itself, or in combination with other information, a prima facie case of unpatentability of a claim or (2) refutes, or is inconsistent with, a position the applicant takes in: (i) Opposing an argument of unpatentability relied on by the Office, or (ii) Asserting an argument of patentability

PATENT LAWS 35 U.S.C.

§102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless--

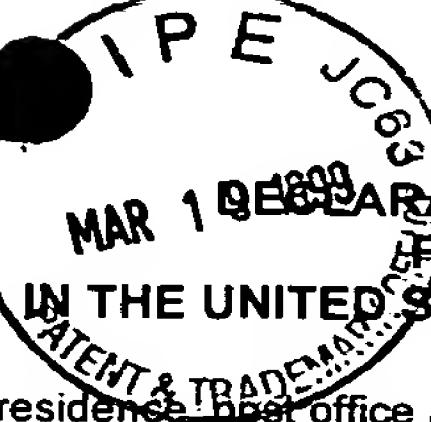
- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

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A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. Subject matter developed by another person, which qualified as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person

* Six months for Design Applications (35 U.S.C. 172).

FOR UTILITY/DESIGN
CIP/PCT NATIONAL/PLANT
ORIGINAL/SUBSTITUTE/SUPPLEMENTAL
DECLARATIONS



RULE 63 (37 C.F.R. 1.63)
DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION

PM & S
FORM

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED GENETIC INHIBITION BY DOUBLE-STRANDED RNA

the specification of which (CHECK applicable BOX(ES))
 is attached hereto.
 BOX(ES) → was filed on December 18, 1998 as U.S. Application No. 09/215,257
 → was filed as PCT International Application No. PCT/_____ / _____ on _____
 and (if applicable to U.S. or PCT application) was amended on _____

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

<u>PRIOR FOREIGN APPLICATION(S)</u>	<u>Date first Laid-open or Published</u>	<u>Date Patented or Granted</u>	<u>Priority Claimed</u>
<u>Number</u>	<u>Country</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

<u>PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)</u>	<u>Status</u>	<u>Priority Claimed</u>
<u>Application No. (series code/serial no.)</u>	<u>Day/MONTH/Year Filed</u>	<u>Yes</u> <u>No</u>
60/068,562	23/DECEMBER/1997	pending, abandoned, patented pending

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, Intellectual Property Group, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, telephone number (202) 861-3000 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with their firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary.

Paul N. Kokulis	16773	David W. Brinkman	20817	G. Paul Edgell	24238	Richard H. Zaitlen	27248
Raymond F. Lippitt	17519	Donald J. Bird	25323	Lynn E. Eccleston	35861	Roger R. Wise	31204
G. Lloyd Knight	17698	Peter W. Gowdrey	25872	Timothy J. Klima	34852	Jay M. Finkelstein	21082
Carl G. Love	18781	Dale S. Lazar	28872	David A. Jakopin	32995	Anita M. Kirkpatrick	32617
Edgar H. Martin	20534	Paul E. White, Jr.	32011	Mark G. Paulson	30793	Michael R. Dzwonczyk	36787
William K. West, Jr.	22057	Glenn J. Perry	28458	Stephen C. Glazier	31361	W. Patrick Bengtsson	32456
Kevin E. Joyce	20508	Kendrew H. Colton	30368	Paul F. McQuade	31542		
George M. Sirilla	18221	Michelle N. Lester	32331	Ruth N. Morduch	31044		

(1) INVENTOR'S SIGNATURE:

Date:

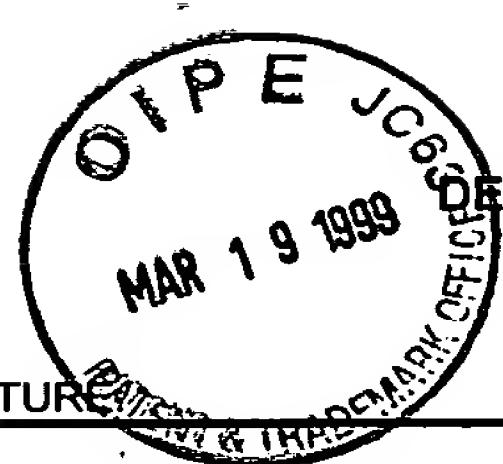
Andrew		FIRE		
First	Middle Initial	Family Name		
Residence	Baltimore	Maryland	U.S.A.	
City	State/Foreign Country		Country of Citizenship	
Post Office Address (include Zip Code)	2320 Bright Leaf Way, Baltimore, Maryland 21210			

(2) INVENTOR'S SIGNATURE:

Date:

Si		Q.	XU	
First	Middle Initial	Family Name		
Residence	Ballwin	Missouri	China	
City	State/Foreign Country		Country of Citizenship	
Post Office Address (include Zip Code)	1755 Warmington Court, Ballwin, Missouri 63021			

(FOR ADDITIONAL INVENTORS, check box to attach PAT 116-2 same information for each re signature, name, date, citizenship, residence and address.)



DECLARATION AND POWER OF ATTORNEY
 (continued)
ADDITIONAL INVENTORS

(3) INVENTOR'S SIGNATURE:

First		Middle Initial	Montgomery	Date:
Residence	St. Paul	Minnesota	Family Name	U.S.A.
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		233 Macalester Street, St. Paul, Minnesota 55105		

(4) INVENTOR'S SIGNATURE:

First		Middle Initial	KOSTAS	Date:
Residence	Baltimore	Maryland	Family Name	U.S.A.
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		126 East Melrose Avenue, Baltimore, Maryland 21212		

(5) INVENTOR'S SIGNATURE:

First		Middle Initial	TIMMONS	Date:
Residence	Baltimore	Maryland	Family Name	U.S.A.
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		2408 Brambleton Road, Baltimore, Maryland 21209		

(6) INVENTOR'S SIGNATURE:

First		Middle Initial	TABARA	Date:
Residence	Worcester	Massachusetts	Family Name	Japan
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		145 Orient Street, Apt. #1, Worcester, Massachusetts 01604		

(7) INVENTOR'S SIGNATURE:

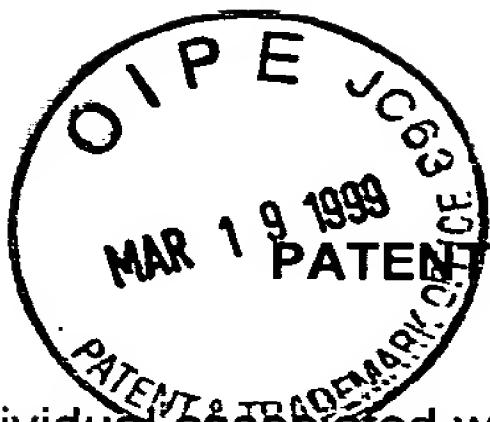
First		Middle Initial	DRIVER	Date:
Residence	Brighton	Massachusetts	Family Name	U.S.A.
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		1714 Commonwealth Avenue, Apt. #4, Brighton, Massachusetts 02135		

(8) INVENTOR'S SIGNATURE:

First		Middle Initial	MELLO	Date:
Residence	Shrewsbury	Massachusetts	Family Name	U.S.A.
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)		19 Ryan Road, Shrewsbury, Massachusetts 01545		

(9) INVENTOR'S SIGNATURE:

First		Middle Initial	Family Name	Date:
Residence				
City		State/Foreign Country		Country of Citizenship
Post Office Address (include Zip Code)				



Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
AND TRADEMARK CASES - RULES OF PRACTICE
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PATENT LAWS 35 U.S.C.

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- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

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* Six months for Design Applications (35 U.S.C. 172).

Inventor(s): FIRE et al.
Appln. No.: 09/ 215,257
Filed: December 18, 1998
Title: Genetic Inhibition by Double-Stranded RNA

Atty. Dkt.
PMS 256628 /

M# / Client Ref.



SMALL ENTITY STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27 (b)) - **NONPROFIT ORGANIZATION**

I hereby state that I am an official empowered to act on behalf of the nonprofit organization identified below.

NAME OF ORGANIZATION The Carnegie Institution of Washington
ADDRESS OF ORGANIZATION 1530 P Street, N.W., Washington, DC 20005

TYPE OF ORGANIZATION

UNIVERSITY OR OTHER INSTITUTION OF HIGHER EDUCATION
 TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE (26 USC 501(a) AND 501(c)(3))
 NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA
(NAME OF STATE)
(CITATION OF STATUTE)
 WOULD QUALIFY AS TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE (26 USC 501(a) AND 501(c)(3)) IF LOCATED IN THE UNITED STATES OF AMERICA
 WOULD QUALIFY AS NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA IF LOCATED IN THE UNITED STATES OF AMERICA
(NAME OF STATE)
(CITATION OF STATUTE)

I hereby state that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 CFR 1.9(e) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, with regard to the invention **entitled as above, invented by the above inventor(s)** and described in

x → the specification filed herewith
one → Application No. 09/ 215,257, filed December 18, 1998
box → Patent No. , issued

I hereby state that rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above identified invention.

If the rights held by the nonprofit organization are not exclusive, each small entity individual, concern or organization having rights to the invention is listed below in (A) and (B) and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

(A) FULL NAME of assignee/licensee/grantee/conveyee* The University of Massachusetts

ADDRESS One Beacon Street, Boston, MA 02108

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

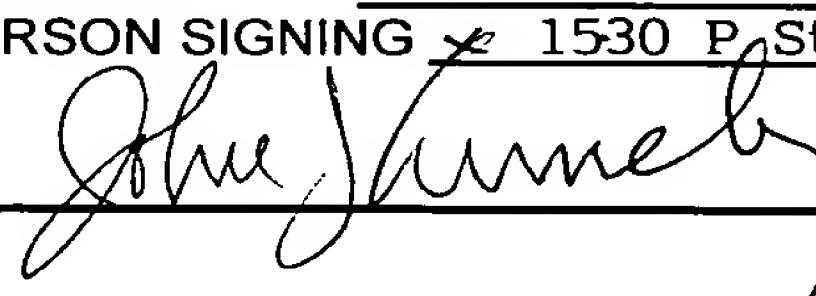
(B) FULL NAME of assignee/licensee/grantee/conveyee*

ADDRESS

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

*NOTE: Separate statement is required from each person, concern or organization named in (A) and (B) above having rights to the invention, averning to his/her/its status as a small entity. (37 CFR 1.27)

I acknowledge the duty to file, in this case, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

NAME OF PERSON SIGNING John J. Lively
TITLE IN ORGANIZATION Director of Administration and Finance
ADDRESS OF PERSON SIGNING 1530 P Street, N.W., Washington, D.C. 20005
SIGNATURE  DATE January 6, 1999

Inventor(s): FIRE et al.
Appln. No.: 09/ 215,257
Filed: December 18, 1998
Title: Genetic Inhibition by Double-Stranded RNA

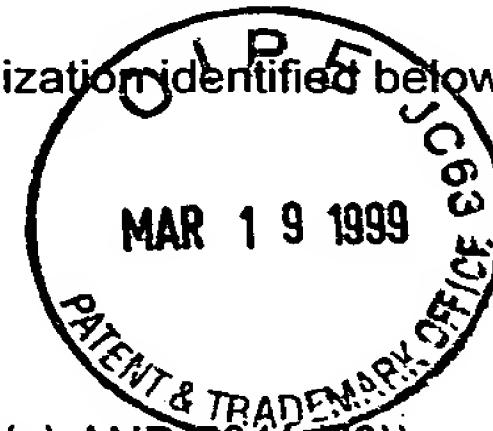
or Patent No.:
or Issued.: _____

Atty. Dkt.
PMS 256628 /
M# / Client Ref.

SMALL ENTITY STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27 (b)) - **NONPROFIT ORGANIZATION**

I hereby state that I am an official empowered to act on behalf of the nonprofit organization identified below.

NAME OF ORGANIZATION The University of Massachusetts
ADDRESS OF ORGANIZATION One Beacon Street, Boston, MA 02108



TYPE OF ORGANIZATION

UNIVERSITY OR OTHER INSTITUTION OF HIGHER EDUCATION
 TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE (26 USC 501(a) AND 501(c)(3))
 NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA
(NAME OF STATE _____)
(CITATION OF STATUTE _____)
 WOULD QUALIFY AS TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE (26 USC 501(a) AND 501(c)(3)) IF LOCATED IN THE UNITED STATES OF AMERICA
 WOULD QUALIFY AS NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED STATES OF AMERICA IF LOCATED IN THE UNITED STATES OF AMERICA
(NAME OF STATE _____)
(CITATION OF STATUTE _____)

I hereby state that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 CFR 1.9(e) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, with regard to the invention entitled as above, invented by the above inventor(s) and described in

x → the specification filed herewith
one → Application No. 09/ 215,257, filed December 18, 1998
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(A) FULL NAME of assignee/licensee/grantee/conveyee* The Carnegie Institution of Washington
ADDRESS 1530 P Street, N.W. Boston, DC 20005

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

(B) FULL NAME of assignee/licensee/grantee/conveyee*

ADDRESS
 INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

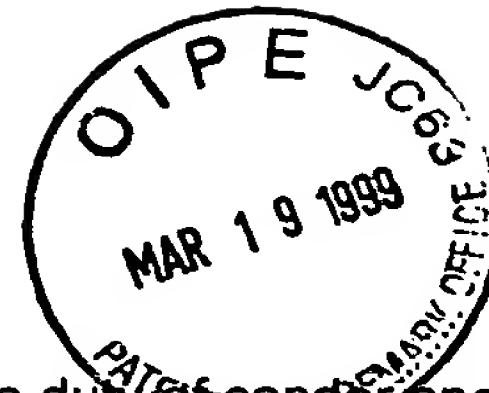
*NOTE: Separate statement is required from each person, concern or organization named in (A) and (B) above having rights to the invention, averring to his/her/its status as a small entity. (37 CFR 1.27)

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NAME OF PERSON SIGNING Joseph F.X. McGuirl
TITLE IN ORGANIZATION Joseph F.X. McGuirl
ADDRESS OF PERSON SIGNING University of Massachusetts, 55 Lake Ave N Worcester MA

SIGNATURE Joseph F.X. McGuirl DATE 4 JAN 99

Rule 56(a) & (b) = 37 C.F.R. 1.56(a) & (b)
PATENT AND TRADEMARK CASES - RULES OF PRACTICE
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- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months* before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
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- (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

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* Six months for Design Applications (35 U.S.C. 172).